

IN THE SPECIFICATION:

Please add the following new paragraph on page 3 starting at line 8 before the heading, "Description of the Preferred Embodiments."

Figure 2 is a diagram of the apparatus used in the present invention.

Please amend paragraph 0007 on page 3 starting on line 8 as follows:

[0007] As shown in ~~the figure~~ Figure 1, the novel method 10 of improving x-ray lithography in the sub 100 nm range to create high quality semiconductor devices comprises the steps of providing for the use and development horizontal beams from a synchrotron or point source of x-ray beams 11. The preparation of submicrometer, transverse horizontal and vertical stepper stages and frames 12 is next. This step develops stages and frames comprised of light weight, honeycomb structure constructed of composite materials. Also, used in this step includes using air or gaseous bearings, vacuum clamping and mating surfaces, active weight compensation; linear actuators and a fine alignment flexure stage for a all six degrees of freedom. The third step provides a stepper base frame for the proper housing and mating of the x-ray beam 13. Techniques and equipment used in this step include beam alignment, vibration insulation used when connecting to a stationary x-ray synchrotron or point source.

Please add the following new paragraphs on page 5 starting at line 17 before the last paragraph of the application as follows:

The apparatus used in operation of the invention is illustrated in FIG. 2. Point source 30 provides x-ray beams 32. In-line collimator or concentrator 34 provides collimated or concentrated x-ray beam 36 for transport in beam transport chamber 38, which minimizes effects of temperature and airflow as beam 36 travels to stepper 40. A vacuum may be provided in beam transport chamber 38. Alternatively, helium 41 and or other low attenuation gas at atmosphere or lower pressure can be used in beam transport chamber 38.

Stepper 40 has a stepper base frame 42. Vibration insulation 44 is provided when connecting stepper base frame 42 to point source 30 for proper housing and mating of x-ray beam 32, 36.

Mask 46 includes a pattern for transfer to wafer 48 on stage 50. Differential variable reluctance transducers 52 provide positional information of stage 50. Gap 54 and six degrees of freedom alignment are provided by multiple variable stage control 56.

IN THE DRAWINGS:

Please add new Figure 2, attached, into the application.